

HARDENABLE CORROSION RESISTANT STEELS

Available Product Shapes

Long Products

Plates

Round Bar

Round Ground Bar

Product Description

An increase in productivity in high-tech mould-making can only be achieved by using mould steels with materials properties trimmed specifically towards the intended use. Due to the increased share of glass-fiber reinforced plastics, BÖHLER M340 ISOPLAST is also increasingly suitable for this kind of processing. In addition, this grade also provides good food resistance. Approvals for the food industry are available from voestalpine BÖHLER Edelstahl.

Properties

- Good toughness & ductility
- High wear resistance
- Good machinability
- Very good dimensional stability
- Good polishability
- High corrosion resistance
- High micro-cleanliness

Applications

- > Comps. for Food processing and Animal Feed
- > Plastic Extrusion
- > Medical
- > Components for Displays
- > Powder Pressing
- > Food processing Industry
- > Screws and Barrels
- > Camera lenses
- > Custom Hand Knives
- > Pill punching dies
- > Injection Molding
- > Standard Parts (Molds, Plates, Pins, Punches)
- > Packaging
- > Electronic Industry

Chemical composition (wt. %)

C	Si	Mn	Cr	Mo	V	N
0.54	0.45	0.4	17.3	1.1	0.1	+

Material characteristics

	Corrosion resistance	Machinability in as supplied condition	Polishability	Toughness	Wear resistance
BÖHLER M340 ISOPLAST®	★★★	★★★	★★	★★	★★★
BÖHLER M310 ISOPLAST®	★★★★	★★★★	★★	★★	★★
BÖHLER M333 ISOPLAST®	★★★★★	★★★★	★★★★★	★★★★★	★★
BÖHLER M368 MICROCLEAN®	★★★★	★★★	★★★★	★★★	★★★
BÖHLER M390 MICROCLEAN®	★★	★	★★★★	★★	★★★★
BÖHLER M398 MICROCLEAN®	★★	★	★★★★	★★	★★★★★
BÖHLER M380 ISOPLAST®	★★★★★	★★★★	★★★★★	★★★★	★★★

Delivery condition

Soft annealed

Hardness	max. 260 HB
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Heat treatment

Stress relieving

Temperature (°C °F)	650 1202	After temperature equalization, soak for 1 to 2 hours in neutral atmosphere. Slow cooling in furnace. After hardening and tempering, stress relieving has to be performed 50°C (90°F) below last tempering temperature.
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Hardening and Tempering

Temperature (°C °F)	980 1796 to 1000 1832	Holding time after temperature equalization: 15 to 30 minutes Quenching media: N ₂ .
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Physical Properties

Temperature (°C °F)	20 68
Density (kg/dm ³ lb/in ³)	7.67 0.28
Thermal conductivity (W/(m.K) BTU (IT) ft/hr/ft ² /F)	18.2 10.52
Specific heat (J/(kg.K) BTU (IT) lb/F)	460 109.87
Spec. electrical resistance (Ohm.mm ² /m 10 ⁻⁴ Ohm.inch ² /ft)	-
Modulus of elasticity (10 ³ N/mm ² 10 ³ ksi)	219 31.76

Thermal Expansions

Temperature (°C °F)	100 212	200 392	300 572	400 752	500 932
Thermal expansion (10 ⁻⁶ m/(m.K) 10 ⁻⁶ inch/(inch.F))	10.88 6.044	10.78 5.989	11.21 6.228	11.61 6.45	11.9 6.611

For more information see www.voestalpine.com/boehler-edelstahl

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